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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/643,294	08/18/2003	Seung Il Kim	2097-3-12	4184

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EXAMINER	
KUMAR, PREETI	

ART UNIT	PAPER NUMBER
1751	

DATE MAILED: 08/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/643,294	KIM, SEUNG IL	
	Examiner	Art Unit	
	Preeti Kumar	1751	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 August 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Non-Final Rejection

1. Claim 1 is pending.

Claim Objections

2. Claim 1 is objected to because of the following informalities: Claim 1 recites alternative expressions for the agent for modifying the crosslinker, catalyst and additive. Alternative expressions are permitted if they present no uncertainty or ambiguity with respect to the question of scope or clarity of the claims. One acceptable form of alternative expression, which is commonly referred to as a Markush group, recites members as being "selected from **the group consisting of** A, B and C." See *Ex Parte Markush,* 1925 C.D. 126 (Comm'r Pat. 1925). Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yanai et al. (US 6,042,616) in view of Andrews et al. (US 5,707,404).

Yanai et al. teach a method for finishing a cellulose fiber-containing textile fabric comprises treating a cellulose fiber-containing textile fabric with liquid ammonia, applying a resin finishing agent to said fabric. The resultant fabric keeps its shape stability including a crease or shrink resistance when washed, without involving any problem on residual formaldehyde. See abstract.

Regarding the crosslinker resin, Yanai et al. teach resin finishing agents may be ones which are able to react with hydroxyl groups of cellulose to form crosslinkage. Examples of such compounds include aldehydes such as glyoxal. See col.3,ln.30-32.

Regarding the agent for modifying the crosslinker, Yanai et al. teach polyhydric alcohols such as glycerine, ethylene glycol, polyethylene glycol, polypropylene glycol and the like, ether alcohols such as ethylene glycol monoethyl ether, diethylene glycol monoethyl ether, ethylene glycol monomethyl ether, diethylene glycol monomethyl ether, diethylene glycol monobutyl ether and the like. See col.4,ln.5-10.

Regarding the catalyst, Yanai et al. teach catalysts including ammonium borofluoride, sodium borofluoride, potassium borofluoride, zinc borofluoride and the like, neutral metal salts such as magnesium chloride, magnesium sulfate, magnesium nitrate and the like, and inorganic acids such as phosphoric acid, hydrochloric acid, sulfuric acid, sulfurous acid, hyposulfurous acid, boric acid and the like. If necessary, these catalysts may be used in combination with organic acid cocatalysts such as citric acid, tartaric acid, malic acid, maleic acid and the like. See col.3,ln.55-60.

Yanai et al. do not specifically teach an additive as recited by the claim. Also, Yanai et al. do not specifically teach the molar ratios of the glycol, catalysts and additives with respect to the glyoxal crosslinker as recited by the instant claim.

It would have been obvious to one of ordinary skill in the art to modify the teaching of Yanai et al. with an additive as recited by the claim, because Yanai et al suggest borate salts in general.

Also, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to optimize the teaching of Yanai et al. and modify the ratio of the glycol, catalysts and additives with respect to the glyoxal crosslinker as recited by the instant claim, because Yanai et al. suggest an analogous durable press composition comprising the claimed components, and furthermore, discovering an optimum ratio involves only routine skill in the art.

6. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Andrews et al. (US 5,707,404).

Andrews et al. teach an improved process of using the reaction product of a dialkyl urea, glyoxal and boric acid to impart permanent press qualities to a fabric without the use of formaldehyde. See abstract.

Regarding the crosslinker resin, Andrews et al. teach resin finishing agents may be ones which are able to react with hydroxyl groups of cellulose to form crosslinkage. Examples of such compounds include aldehydes such as glyoxal. See col.3,ln.30-32.

Regarding the agent for modifying the crosslinker, Andrews et al. teach polyhydric alcohols such as ethylene glycol and diethylene glycol. See col.2,ln.60.

Regarding the catalyst, Andrews et al. teach typical catalysts include acids such as fluoboric, acetic, glycolic, maleic, lactic, citric, tartaric, and oxalic acids; metal salts such as magnesium chloride, nitrate, fluoborate, or fluosilicate; zinc chloride, nitrate, fluoborate, or fluosilicate; ammonium chloride; zirconium oxychloride; sodium bisulfate; amine hydrochlorides such as the hydrochloride of 2-amino-2- methyl-1-propanol; and the like, and mixtures thereof. The preferred catalyst is a mixture of from about 75-95% magnesium chloride and from about 25-5% magnesium fluoroborate. The amount of catalyst generally is about. 0.01 to 10 percent, and preferably about 0.05 to 5 percent, based on the weight of the padding bath. See col.6,ln.50-60.

Regarding the additives, Andrews et al. teach that the product of the reaction of the dialkyl urea, glyoxal and boric acid can be partially neutralized to a pH of between about 3 to about 5 with sodium metaborate and caustic soda. The caustic soda aids the solubility of the sodium metaborate. Alkylation of the hydroxy groups can then be accomplished using an alcohol of the group to be added and a base, according to reactions well known to those skilled in the art. See col.4,ln.60-67.

In example 3, Andrews et al. teach 4.014 parts of glyoxal, 0.194 parts of boric acid. The glyoxal content is then determined to be less than about 0.5% and 0.192 parts of sodium metaborate is added. When the sodium metaborate has dissolved 0.189 parts of magnesium fluoborate is added to the reaction vessel. Then 1.699 parts of magnesium chloride are added to the reaction. 0.193 parts of a solution of 25% NaOH is then added. See col.7-8.

Andrews et al. do not specifically teach the molar ratios of the glycol, catalysts and additives with respect to the glyoxal crosslinker as recited by the instant claim.

Also, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to optimize the teaching of Andrews et al. and modify the ratio of the glycol, catalysts and additives with respect to the glyoxal crosslinker as recited by the instant claim, because Andrews et al. suggest an analogous durable press composition comprising the claimed components, and furthermore, discovering an optimum ratio involves only routine skill in the art.

Conclusion

7. Remaining references cited but not relied upon are considered to be cumulative to or less pertinent than those relied upon or discussed above.

8. Applicant is reminded that any evidence to be presented in accordance with 37 CFR 1.131 or 1.132 should be submitted before final rejection in order to be considered timely.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Preeti Kumar whose telephone number is 571-272-1320. The examiner can normally be reached on M-F 9:00am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yogendra N. Gupta can be reached on 571-272-1316. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Preeti Kumar
Examiner
Art Unit 1751

PK

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